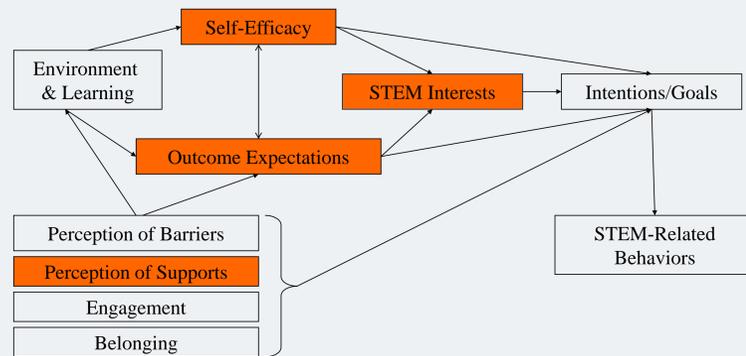


RATIONALE

- Parent support plays a significant role in influencing children's math interest (Turner, Steward, and Lapan, 2004; Ferry, Fouad, & Smith, 2000).
- Children's math self-efficacy predicts math achievement and interest in math courses (Lopez, Lent, Brown, & Gore, 1997).
- More research is needed to understand the influence of parents on their children's development of math interest.
- We would like to know if parental math self-efficacy influences children's perceived parental support and if that, in turn, influences children's math interest.

THEORETICAL FRAMEWORK

- Social Cognitive Career Theory (Lent, Hackett, & Brown (1994)
- Added Learning, Belonging, and Engagement to the model (Shoffner, 2006)



SITE & SAMPLE

Central Public School District (CPS)

- Southeastern school district of 8,700 students (11 Elementary, 3 Middle, 2 High).
- Participants from 3 middle schools and 2 high schools.
- Approximately 50% of students were eligible for the Free and Reduced Lunch Program in the district as well as our sample schools.
- N = 62; 51.6% male, 48.4% female
- Race/Ethnicity: Multiracial (8.1%); Black, African American (17.7%); White (61.3%); Asian, Asian American (1.6%); Hispanic (6.5%); Other (4.8%)
- 7th Grade (53%), 9th Grade (39%), and 11th grade (8%)

METHOD

- Participation was voluntary and all procedures and materials were approved by the University of Virginia Institutional Review Board.
- Focus groups were conducted with students, teachers, and parents.
- Surveys (see Instrumentation) were administered to students, teachers, and parents of students at participating schools.

INSTRUMENTATION

- Student survey consisted of 130 items comprising 9 scales.
- Scales measured Math Self-Efficacy, Outcome Expectations, Interests, Perceived Support (Parents, Peers, Teachers), Perceived Barriers, Belonging and Engagement.
- Parent Math Self-efficacy scale consisted of 8 items.
- Math Self-Efficacy was defined by Bandura (1997) as:
 The students' belief in their capability to perform math tasks or succeed at math activities at a specified level of competency.
- Self-efficacy is a domain (i.e. math) specific measure of competence in carrying out a specific task.

RESEARCH QUESTION 1

- How do students describe parent math ability and parent math liking?

Preliminary Qualitative Findings

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Do you go to your family for help? | "I used to when they understood what I was doing." "Second and third grade. After that, I was pretty much on my own." (11 th grade boys) |
| Do your parents talk about math? | "I talk to my mom. She's an accountant so she works with numbers a lot . . . Sometimes she knows what to do but it not usually . . . how we did it in school. She's like, it's the right answer. I get confused." (7 th grade girl) |
| How about your parents, how do they talk about Math in the future? | "My mom just says just learn it, learn it, learn it. She doesn't know what it is, just learn it." (11 th grade boy) "My parents don't really talk about it. They value Math and just make me do it. When . . . we see a [miles to destination sign], they'll give me how fast they're going and I have to figure out how long it will take, which is kind of annoying." (9 th grade boy) |

RESEARCH QUESTION 2

- Is there a relationship between parent math self-efficacy and student perception of parent support for boys and girls in grades 7, 9, and 11?

Table 1. Correlation Table

| | 1 | 2 | 3 | 4 | 5 |
|-------------------------------|-------|-------|------|-----|----|
| 1. Parent Math Self-Efficacy | -- | | | | |
| 2. Mother Support | .08 | -- | | | |
| 3. Father Support | -.74 | .55** | -- | | |
| 4. Parent Support | -.54 | .88** | .88* | -- | |
| 5. Student Math Self-Efficacy | .38** | .18 | .01 | .12 | -- |

** p ≤ .01

RESEARCH QUESTION 3

- Are there differences in parent math self-efficacy and student perception of parent support by gender or grade?
- There were no significant differences between groups.

RESEARCH QUESTIONS 4 & 5

- Do parent math self-efficacy and student perception of parent support explain student math self-efficacy of boys and girls in grades 7, 9, 11?
- Does student perception of teacher support explain student math self-efficacy above and beyond parent math self-efficacy and perceived parent support?

Table 2. Regression on Student Math Self-Efficacy

| | β | R ² Change |
|---------------------------|-------|-----------------------|
| Parent Math Self-Efficacy | .33** | .15** |
| Perceived Teacher Support | .27 * | .07 * |

* p ≤ .05; ** p ≤ .01

CONCLUSIONS AND IMPLICATIONS

- The findings reported here are consistent with the literature – parents do influence their students' math self-efficacy.
- In addition, teachers play a significant role in nourishing students' math self-efficacy. Perhaps professional development programs targeted at increasing teacher support will bolster students' math self-efficacy.

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